# INTERIM STATUS CLOSURE PLAN
# FOR
# OPERABLE UNIT 15: INSIDE BUILDING CLOSURES

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## PURPOSE

The intent of this Closure Plan is to provide a description of the closure process for six interim status units at the Department of Energy's Rocky Flats Environmental Technology Site (RFETS). This plan addresses requirements contained in ~~Colorado Hazardous Waste Act (CHWA)~~ 6 CCR 1007-3 Section 265, Subpart G - Closure and Post-Closure.

Closures of hazardous waste treatment and storage units are to be conducted in accordance with the closure performance standard contained in ~~CHWA~~ 6 CCR 1007-3 Section 265.111. This standard requires the Department of Energy to close these interim status units in a manner which ~~that~~:

1. Minimizes the need for further maintenance, and
2. Controls, minimizes or eliminates, the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, and
3. Complies with all other appropriate closure requirements contained in Part 265.

The specific requirements and responsibilities for cleanup activities at Rocky Flats Technology Site (RFETS) are outlined in the Interagency Agreement (IAG) between the Department of Energy (DOE), the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE). Interim status closure units have been designated in the IAG as Individual Hazardous Substance Sites (IHSSs). Six IHSSs located inside buildings comprise Operable Unit (OU) 15. ~~Guidance from CDPHE and EPA allows for the closure requirements to be satisfied by a Corrective Action Decision/Record of Decision (CAD/ROD) within the integrated RCRA/CERCLA process.~~

## DESCRIPTION OF CLOSURE UNITS

The six interim status closure units in OU15 are located within four buildings in the Industrial Area of RFETS. The following is a summary of the physical description and operational history of each closure unit:

**[N.B. - *The descriptions of* IHSSs in the CAD/ROD contain additional information about the RFI/RI investigation which would be appropriate to include here. A reference to a map showing IHSS locations might also be useful here.]**

**IHSS 178, Building 881 - Room 165, Drum Storage Area.** IHSS 178, which has a maximum storage capacity of five 55-gallon drums, was first used in 1953 when Building 881 operations

began. The IHSS area consists of two painted circles, each approximately four feet in diameter. The drums stored in this IHSS contained waste contaminated with volatile organic compounds (Freon TF and 1,1,1-trichloroethane), carbon dioxide and possibly low-level radioactivity. Routine visual monitoring was conducted during the period of operation. Currently IHSS 178 is used as a 90-day accumulation area.

**IHSS 179, Building 865 - Room 145, Drum Storage Area.** This IHSS has a maximum storage capacity of ten 55-gallon drums and was first used for drum storage in 1970. The dimensions of the unit are approximately 8 feet by 12 feet. Drums stored in the IHSS contained oils, chlorinated solvents, low-level radioactive waste and possibly beryllium. The IHSS was monitored routinely for spills and releases.

**IHSS 180, Building 883 - Room 104, Drum Storage Area.** IHSS 180, which has a maximum storage capacity of thirty 55-gallon drums, measures 10 feet by 16 feet and was first used for drum storage in 1981. Drums stored in the IHSS contained oils contaminated with solvents, uranium and beryllium. Visual monitoring of the storage area was conducted periodically.

**IHSS 204, Building 447 - Rooms 32 and 502, Original Uranium Chip Roaster (RCRA Unit 45).** IHSS 204, the Original Uranium Chip Roaster, was used historically to oxidize uranium chips coated with small amounts of oils and coolants (Freon TF and 1,1,1-trichloroethane), converting the elemental uranium to uranium oxide. The unit is cylindrical with a diameter of 5 feet 6 inches and a height of 7 feet 4 inches. The inlet for the unit is located in Room 502 and the outlet is located directly downstairs in Room 32. Depleted uranium chips were fed into this unit at a maximum rate of three drums per day. The unit is still operational, but no hazardous constituents have been treated in this unit since January 1988, when the uranium chips processed in the unit ceased to be coated with oils and coolants.

**IHSS 211, Building 881 - Room 266B, Drum Storage Area (RCRA Unit 26).** This IHSS has a maximum storage capacity of twenty-nine 55-gallon drums and was first used as a drum storage area in 1981. Since May 6, 1989, IHSS 211 has been operating as a RCRA 90-day accumulation area. The dimensions of the IHSS are approximately 10 feet by 20 feet. The wastes stored in the unit have historically included low-level radioactive combustibles (rags, wipes, etc.) metals, glass and materials which contained solvents and/or metals generated by laboratories in the building.

**IHSS 217, Building 881 - Room 131C, Cyanide Bench Scale Treatment (RCRA Unit 32).** IHSS 217 consists of a 4 feet by 5 feet painted metal fume hood and laboratory table, three 4-liter polyethylene bottles, a glass beaker and a chlorine-specific ion electrode. The laboratory table and fume hood were originally installed in 1952. The unit was used as a bench scale treatment process to convert cyanide to cyanate. Aqueous cyanide solutions were transferred to the unit for analysis of cyanide content using a cyanide still. Very low concentrations of other listed hazardous wastes may have been in these solutions. Wastes generated from this analysis were collected in the three 4-liter polyethylene bottles and stored in the steel fume hood of the unit. The cyanide solution was treated in one of the 4-liter bottles and then transferred via the process waste line system to the central liquid waste treatment facility in Building 374 for further treatment.

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## REMOVAL OF HAZARDOUS WASTE INVENTORY

There are, and will be, no containers or wastes in treatment or storage for more than 90 days at the six IHSSs during closure; therefore, there is no inventory to be removed.

## SAMPLING AND ANALYTICAL METHODS

The methods used to sample and analyze for RCRA hazardous constituents and radiological contamination are described in detail in the Final Phase I RCRA Facility Investigation/ Remedial Investigation (RFI/RI) Workplan Plan. Sampling grids were established for each IHSS and three types of samples were collected and analyzed:

1. surficial smear samples for radionuclides and beryllium analysis;
2. hot water rinsate samples for TCL volatile organics, TCL semi-volatile organics, and TAL metals analysis;
3. radiation surveys for fixed radionclide constituents.

RCRA clean closure is based on comparison of the hot water rinsate analyses to performance standards established for used rinsate:

1. There must be no detectable levels of hazardous organic constituents;
2. It must not exhibit any characteristics of a hazardous waste as defined in 6 CCR 1007-3 Part 261, Subpart C; and
3. The levels of Toxicity Characteristic (TC) metals must be at or below the background level in the unused rinsate solutions.

Parameter selection for the used rinsate analysis were based on the specific wastes stored at the IHSS. ~~These wastes are specified in Part III of the Rocky Flats RCRA Permit.~~

## DECONTAMINATION

The results of sampling performed at these six units have been reported in the Phase I RFI/RI Report for OU15. The report concludes that the IHSSs ~~are in compliance with~~ have met the RCRA clean closure performance standards. Therefore, no additional decontamination actions are necessary.

## ADDITIONAL ACTIONS TO ASSURE COMPLIANCE

In accordance with Section I.B.II.a of the IAG, additional action at an IHSS within OU15 may be required if:

1. There has been a release of hazardous constituents of hazardous substances to the environment external to the IHSS, or
2. There is a threat of post-closure escape of hazardous waste, hazardous constituents, run-off, hazardous waste decomposition products, or hazardous substances.

In addition to samples collected from surfaces within IHSSs, sampling was also conducted in perimeter and pathway areas. The RFI/RI investigation determined that no contamination from wastes stored or treated at the IHSSs had migrated out of an IHSS and so no additional actions are necessary in order to satisfy the closure performance standards.

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## CERTIFICATION OF CLOSURE

As required in 6 CCR 1007-3, Section 265.115, certification of closure requirements will be submitted to CDPHE. This certification is provided by the owner/operator of the facility and by an independent registered professional engineer and assures that the IHSSs have been closed in accordance with the specifications contained in or referenced by this closure plan.

## CLOSURE SCHEDULE

The investigation objectives and proposed sampling and analysis methods were submitted as the final Phase I RFI/RI Work Plan on October 26, 1992; the results of the investigations were submitted as the final Phase I RFI/RI Report on December 19, 1994. The remaining schedule for the closure of OU15 IHSSs consists of one remaining item - the submittal of the final CAD/ROD by September 29, 1995.

## FINANCIAL ASSURANCE

Federal government facilities are exempt from the financial requirements imposed by Subpart H of CHWA, Section 265.140(c). Because RFETS is a federally-owned facility, no cost-estimates or financial assurance documentation is required.

## ADDITIONAL INFORMATION

The RFI/RI Work Plan, RFI/RI Report, the Proposed Plan and other documents contain data pertinent to the closure of the OU15 IHSSs and are available at information repositories at the following locations:

Rocky Flats Public Reading Room
Front Range Community College
Level B
3645 W. 112th Avenue
Westminster CO 80030

Colorado Department of Public
Health and Environment
Hazardous Materials and Waste
Management Division - Bldg. B2
4300 Cherry Creek Drive South
Denver CO 80222-1530

Citizens Advisory Board
9035 N. Wadsworth Parkway
Suite 2250
Westminster CO 80021

Standley Lake Library
8485 Kipling Street
Arvada CO 80005

U.S. Environmental Protection Agency
Superfund Records Center
5th Floor
999 18th Street
Denver CO 80202-2466